



Dart Hawkesbury
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

D119-646-243
Job Sheet 164685



Part No: D119-646-243

Job Qty: 1 ea

Part Name: AW119 Repl. Skidtube with Heavy Duty Wearplates, Float Compatible -Fits LH or RH



Part Weight: 0 lbs

Status: Production

Priority: Medium

Job Created: 9/30/17

Job Tracking No:

Due Date: 10/31/17

Created By: Mario Poulin

Type: Stock

Description:

Note: DWG IIN-D119-646 REV D, D3905-045 REV E SHEETS 4,5, 7-14 IPP RevA: New issue DD verified by:EC IPP REV B 12.11.05 (DEOD3905-B-1)(ecn 12-675) DD verf:JLM IPP REV:C 13.03.20 per chg003 ECN13-534 DD verf:JLM IPP REV:D 15.01.19 AS PER ECN-14-628 DD verf:JLM IPP REV:E 16.11.02 chg as per D3905 revD(DEO) DD verf:JLM IPP REV:F 17.05.19 as per dwg D3905 rev.e DD verf:JFS

Ship Via:

Bill of Materials

Part/Part Name	Part Note	Serial No	Quantity	Location
D119-646-243 AW119 Repl. Skidtube with Heavy Duty Wearplates, Float Compatible -Fits LH or RH	DWG IIN-D119-646 REV D, D3905-045 REV E SHEETS 4,5, 7-14 IPP RevA: New issue DD verified by:EC IPP REV B 12.11.05 (DEOD3905-B-1)(ecn 12-675) DD verf:JLM IPP REV:C 13.03.20 per chg003 ECN13-534 DD verf:JLM IPP REV:D 15.01.19 AS PER ECN-14-628 DD verf:JLM IPP REV:E 16.11.02 chg as per D3905 revD(DEO) DD verf:JLM IPP REV:F 17.05.19 as per dwg D3905 rev.e DD verf:JFS		0.000	
ALS4-1032-130 Rivnut			0.000	
ALS4-1032-225 Rivnut	DWG REV B		0.000	
AN3C46A Bolt			0.000	
AN3C50A Bolt			0.000	
AN3C5A Bolt			0.000	
AN4C46A Bolt			0.000	
D2500-1-190 Ext'n -I' Beam Tube 4"	DWG REV H		0.000	
D2579 Crossbolt Spacer	DWG REV E IPP E 02.06.17 Now turned on Cobra NG IPP F 07.07.06 rev E dwg EC		0.000	
D2855-3 Cap	DWG REV C IPP RevA: New issue DD verified by:EC			
D2855-5 Cap	DWG REV C IPP REV:A 17.05.10 NEW ISSUE DD VERF:JFS			
D3411-3 Washer	DWG REV A IPP A 05.10.19 New issue KJ/EC			
D3672-1 Washer, Phenolic	DWG REV D IPP Rev:A New Issue 07-09-09 JLM Verified By:EC IPP Rev:B ECN 1056 07-11-13 DD			
D3681-1 Spacer	DWG REV A IPP Rev A new issue 07-10-30 DD verified by:EC IPP Rev:B Ecn 1056 Rev A dwg DD IPP Rev:C add seq 125 DD 10.05.03 verified by:EC			
D3847-1 Wearpad	DWG REV D SHEETS 1,7 IPP RevA: New issue DD verified by:EC IPP REV:B 14.11.25 AS PER DWG REV.C DD VERF:JLM IPP REV:C 16.03.3 AS PER DWG REV.D DD VERF:JLM			
D3847-11 Wearpad	DWG REV D SHEETS 2,7 IPP RevA: New issue DD verified by:EC IPP REV:B 16.03.31 AS PER DWG REV.D DD VERF:JLM			
D3849-045 Run-on Landing Wearplate Aft For Float Skidtubes	DWG REV F IPP RevA: New issue DD verified by:EC IPP Rev:B 12.09.11 PER DWG REV.D DD VERF:JLM IPP Rev:C 14.11.26 AS PER DWG REV.D DD VERF:JLM IPP REV:D 16.06.17 DWG REV.F DD VERF:JLM			

CRAP

Status: Stock

Part: **D119-646-243 B164685**

Created: 9/30/17 11:11 AM DART.MICHAUD.

FEBRILLE.VICTORIA

Serial No: **S000035**

Printed By: Goldston, Justin 10/2/17 10:44 AM

D3849-047	DWG REV F IPP RevA: New issue DD verified by:EC IPP Rev:B 12.09.11 AS	0.000
Run-on Landing Wearplate	PER DWG REV.D DD VERF:JLM IPP Rev:C 14.11.26 AS PER DWG REV.E	
Fwd For Float Skidtubes	DD VERF:JLM IPP REV:D 16.06.17 DWG REV.F DD VERF:JLM	
D3903-1	DWG REV B IPP RevA: New issue DD verified by:EC	0.000
Spacer		
D3904-1	DWG REV B IPP RevA: New issue DD verified by:EC	0.000
Washer		
D5101-041	DWG REV C SHEETS 1,2 IPP REV:A NEW ISSUE 14-12-18 JLM VERIFIED	0.000
Crossbolt Spacer Assembly	BY:DD IPP REV:B 15.12.10 AS PER DWG REVB DD VERF:JLM	
D5101-047	DWG REV C SHEETS 5,6 IPP Rev.A New issue JFS 15/09/29 Verified by:	0.000
Crossbolt Spacer Assembly	DD IPP REV:B 15.12.10 AS PER DWG REVB DD VERF:JLM	
D5101-3	DWG REV C SHEET 3 IPP REV:A NEW ISSUE 14-12-18 JLM VERIFIED	0.000
Insert	BY:DD	
D5101-5	DWG REV C SHEET 4 IPP REV:A NEW ISSUE 14-12-18 JLM VERIFIED	0.000
Insert	BY:DD	
MS21043-3		0.000
Nut		
MS21043-4		0.000
Nut		
MS24694-C52		0.000
Screw		
NAS1149C0332R		0.000
Washer		
NAS1149D0416J		0.000
Washer		

Job Routing

Op No	Operation	Qty	Due Date	Standard		Workcenter/Supplier	
				Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time
90	Start up Operation	1 Ea	10/30/17	0.00	0.00	Start up container	
100	DC	1 pcs	10/30/17	0.00	0.00	DC	
224	Skidtubes	1 pcs	10/30/17	0.00	0.00	Skidtubes	
250	HandFinish	1 pcs	10/30/17	0.00	1.05	HandFinish4	
270	HandFinish	1 pcs	10/30/17	0.00	0.00	HandFinish4	
280	QC	1 pcs	10/30/17	0.00	0.00	QC5	
290	Packaging	1 pcs	10/31/17	0.00	0.00	Packaging3	
300	QC21-FG	1 Ea	10/31/17	0.00	0.00	QC21	

Part Op 100 - Document Control Photocopy bluefile & type labels per PPP D119-646-243 CHG 005

Descriptions: **224** - NOTE:TACK IN 2 MOST FWD X-BOLT SPACERS AND TEST FIT FWD GROUND HANDELING FIXTURE,IF FIXTURE FITS WELL THEN PROCEED. FIXTURE DT10091. 1- Countersink x-bolt holes as per dwg 2- Remove alodine prepare for welding 3- Insert x-bolt spacers 4- Weld x-bolt spacer as per dwg A/R Alum rod Batch:_____ 5- Grind welds flush as per dwg 6- Counter bore x-bolt holes as per dwg 7- Deburr 8- Pick D2855-5 cap and transfer drill missing hole. Deburr and identify cap with skidtube batch#.

250 - Assemble as per dwg 1-Install inserts as per Dwg D3905.

270 - 1-Install wearpads, gaskets and wearplates as per Dwg D3905. Put sikaflex in insert before installing bolts and washers A/R Sikaflex-240/-291 _____ Sikaflex expire date: _____ 2- install plugs assembly as per dwg. 3 -Inspect for foreign objects as per QSI 024 4 -Install D2855-3 Cap and seal with Sikaflex. Clean excess adhesive. A/R Sikaflex-240/-291 _____ Sikaflex expire date: _____ 5 -Install insert in D2855- Cap. Install cap and seal with Sikaflex. Clean excess adhesive. A/R Sikaflex-240/-291 _____ Sikaflex expire date: _____ 6- Install (2)D5101-041 and (1) D5101-047 as per dwg by using DT10117

280 - QC5- Inspect part completeness to step on W/O

290 - Identify as per dwg & Stock Location:_____

300 - QC21- Final Inspection - Work Order Release

Job BOM

Part / Item	Component Name	Quantity	Operation	Special Comments
D119-646-243 B164685		1 Ea (1 ea)	90-Start up Operation	

Job Allocations

Operation	Component Part	Required	Inventory	Allocated	Std Qty
90-Start up Operation	D119-646-243 B164685	1	1	0	0

Part Specifications

Specifications could not be found.

Plex 10/1/17 3:17 PM Dart.Baker.Diane

Work Order Summary

Thursday, September 28, 2017 9:07:09 AM

Page 1 of 2

Criteria : Work Order ID: 164685 Item ID: D119-646-243 Product Family SKIDTUBES
Work Order Start Dates 7/27/2017 to 7/27/2017 11:59:59 PM Work Order Required Dates 8/4/2017 to 8/4/2017 11:59:59 PM
Reference: ECN14-628
Work Order Status Released

Work Order ID	164685	Required Qty	1.0000	Status Code	Released
Item ID	D119-646-243	Accepted Qty	0.0000	Scrap Qty	0.0000
Item Name	AW119 Repl. Skidtube with Heavy Duty Wearplates, Float Compatible -Fits LH or RH				
Current Acct Value	\$4,003.306				
Start Date	7/27/2017	Required Date	8/4/2017	Completed Date	
Rework					
	** Actual **		** Acct. Value **	** Variance **	** Variance % **
Direct Costs	Total	Each	Each	Each	Each
Material	\$827.230	\$0.000	\$827.230	\$827.230	100.00%
Labor	\$1,669.808	\$0.000	\$1,438.627	\$1,438.627	100.00%
Outplant	\$240.378	\$0.000	\$240.378	\$240.378	100.00%
Variable Burden	\$0.000	\$0.000	\$0.000	\$0.000	100.00%
Fixed Burden	\$2,571.397	\$0.000	\$2,086.004	\$2,086.004	100.00%
Material Burden	\$0.000	\$0.000	\$0.000	\$0.000	0.00%
** Total **	\$5,308.813	\$0.000	\$4,592.239	\$4,592.239	

Item ID/Item Name	Required Qty	Issue Code	Issue Date	Issued Qty	Cost Amount
D119-646-243					
AW119 Repl. Skidtube with Heavy Duty Wearplates, Float Compatible -Fits LH or RH	1.0000		7/27/2017	1.0000	\$4,592.239
Total Matl Amts:					\$4,592.239

Work Center HandFinish

Employee ID	Rout Seq ID	Labor Date	Setup Hours	Actual Setup Hours	Labor Hours	Actual Labor Hours	Nbr of WOs	Setup Amount	Labor Amount	Fix Burd Amount	Var Burd Amount	Total Amounts
LECO02												
9/7/2017												
285			0.00	0.00	1.82	0.91	2.00	\$0.000	\$19.796	\$49.413	\$0.000	\$69.208
Total:			0.00	0.00	1.82	0.91	2.00	\$0.000	\$19.796	\$49.413	\$0.000	\$69.208

Work Center Skidtubes

Employee ID	Rout Seq ID	Labor Date	Setup Hours	Actual Setup Hours	Labor Hours	Actual Labor Hours	Nbr of WOs	Setup Amount	Labor Amount	Fix Burd Amount	Var Burd Amount	Total Amounts
whit01												
8/30/2017												
115			0.00	0.00	7.39	7.39	1.00	\$0.000	\$192.410	\$373.432	\$0.000	\$565.843
Total:			0.00	0.00	7.39	7.39	1.00	\$0.000	\$192.410	\$373.432	\$0.000	\$565.843

Work Center SprayPaint

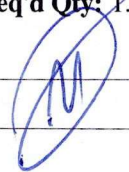
Employee ID	Rout Seq ID	Labor Date	Setup Hours	Actual Setup Hours	Labor Hours	Actual Labor Hours	Nbr of WOs	Setup Amount	Labor Amount	Fix Burd Amount	Var Burd Amount	Total Amounts
SHEL02												
9/19/2017												
288			0.00	0.00	0.98	0.49	2.00	\$0.000	\$9.138	\$30.122	\$0.000	\$39.260
288			0.00	0.00	1.06	0.53	2.00	\$0.000	\$9.837	\$32.426	\$0.000	\$42.263
Total:			0.00	0.00	2.04	1.02	4.00	\$0.000	\$18.975	\$62.549	\$0.000	\$81.523

Work Order ID 164685

Tuesday, August 08, 2017 11:50:11 AM

164685

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Item ID: D119-646-243**Accept*****N900040100*****Setup Start *NS1*****Revision ID:****Stop *NS2*****Item Name:** AW119 Repl. Skidtube with Heavy Duty Wearplates, Float Compatible -Fits LH or RH**Start Date:** 7/27/2017 **Start Qty:** 1.00***1*****Cust Item ID:****Required Date:** 8/4/2017 **Req'd Qty:** 1.00***1*****Customer:****Reference:** ECN14-628**Approvals:** **Process Plan:**  **Date:** AUG 08 2017**Tooling:** **Date:****Run Start *NR1*****QC:** **Date:** **SPC (Y/N):** **Date:****Stop *NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
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D3905-045	E
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IIN-D119-646	D
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100 Document Control

0.00

100

DC

Memo

0.00

Doc.Control -USB or Paperwork

Photocopy bluefile & type labels per PPP D119-646-243
CHG 005

105

0.00

105

Skidtubes

Memo

0.00

Skidtubes

PULL FROM STOCK
1 X D119-646-243 B102699
REWORK PER RS1015 A/RADD DSI 9685-011
AS PER ECN 14-628

WAS DONE ON 129393
W/O WAS LOST.

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					

Work Order ID 164685

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164685

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Item ID: D119-646-243 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: AW119 Repl. Skidtube with Heavy Duty Wearplates, Float Compatible -Fits LH or RH
Start Date: 7/27/2017 Start Qty: 1.00 *1* Cust Item ID:
Required Date: 8/4/2017 Req'd Qty: 1.00 *1* Customer:
Reference: ECN14-628

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
286 *286* QC Quality Control	QC7-Inspect Chemical Conversion Coat Memo	0.00 0.00				<u>1</u>			DAS 41 9-89 SEP 19 2017
288 *288* SprayPaint Spray Painting	Memo SPRAY PAINT PER D3905- REV D OR CONTINUE FROM SEQ 240 <i>Part 137175</i> OR ROUTING D119-646 REV D <i>Part 138396</i>	0.00 0.00				<u>1</u>			DAS 41 9-89 SEP 19 2017
289 *289* QC Quality Control	QC14- Inspect Spray Paint Memo	0.00 0.00							

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
100 01 932				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

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Quality Control

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval																																																									
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval																																																									
Root Cause		FAULT CATEGORY																																																															
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER :			
Misidentified ☐	Past Due ☐																																																																

Picklist Print

Thursday, July 27, 2017 3:01:11 PM

Page 1

Work Order ID: 164685

164685

Parent Item: D119-646-243

D119-646-243

Parent Item Name: AW119 Repl. Skidtube with Heavy Duty Wearplates, Float Compatible -Fits LH or RH

Start Date: 7/27/2017

Required Date: 8/4/2017

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP RevA: New issue DD verified by:EC IPP REVB
12.11.05 (DEOD3905-B-1)(ecn 12-675) DD verf:JLM IPP REV:C 13.03.20
per chg003 ECN13-534 DD verf:JLM IPP REV:D 15.01.19 AS PER ECN-
14-628 DD verf:JLM IPP REV:E 16.11.02 chg as per D3905
revD(DEO) DD verf:JLM IPP REV:F 17.05.19 as per dwg D3905 rev.e DD
verf:JFS

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
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D119-646-243

Manufactured No

Each 1.0000

D119-646-243

102699

**

1

SEP 28 2017

AW119 Repl. Skidtube with Heavy Duty Wearplates, Float Compatible -Fits LH or RH

Location

Loc Qty

Loc Code

FG

1

129394

1

DART SERVICE INSTRUCTION

TO AMEND INSTALLATION INSTRUCTIONS IIN-D119-646 REV. B
AND INSTRUCTIONS FOR CONTINUED AIRWORTHINESS ICA-D119-646 REV. 1
REF FAA STC: SR02024SE
REF EASA STC: 10040294

1.0 PURPOSE:

Customers may have experienced spinning inserts on Dart D119-646-013/-014/-113/-114/-213/-214 float skid tubes. This DSI provides a repair for those spinning inserts.

2.0 INSTALLATION:

- 2.1 Remove AN4C6A Bolts securing the 604.0902 Float to the RH skid tube
- 2.2 Remove the 12 inserts from the skidtube extension.
- 2.3 Open the insert holes (12x) to 0.437" +0.010/-0.000. Deburr and alodine hole per MIL-DTL-5541
- 2.4 Remove AN3 bolts securing the D2855-3 Cap to the skidtube. Break/remove sealant between cap and skidtube and remove cap. Clean off residual sealant and inspect for corrosion damage per Dart ICA-D119-646 Chapter 5.
- 2.5 Using locally procured 1/4-20 UNC threaded rod attached to the D5101-041 Crossbolt Spacer, slide it into the skidtube.
- 2.6 Align the holes in the D5101-041 Crossbolt Spacer with the newly drilled holes in the skidtube. Some adjustment of the size of the spacer is permitted to fit it to the deepest set of holes.
- 2.7 Using the D5101-3 and D5101-5 inserts, secure the D5101-041 Crossbolt Spacer to the skidtube. Reference Figure 1. Remove the threaded rod. Torque inserts to 95-110 in.lbs (10-12 N-m).
- 2.8 Repeat steps 2.4-2.7 for the other 2 crossbolt spacer locations.
- 2.9 Reinstall D2855-3 Cap with AN3 bolts. Seal bolts with Sikaflex-241/-291 or Proseal 890 or MIL-S-8802 Class 'B2' sealant. Torque bolts to 15-25 in-lbs (1.7-2.8 N-m). Apply a bead of Sikaflex -241/-291 or Proseal 890 or MIL-S-8802 sealant between the cap and the skidtube.
- 2.10 Reinstall the 604.0902 Float onto the skidtube using 3x AN4C46A Bolts per Figure 1.
- 2.11 Repeat steps 2.1-2.10 for the LH skidtube.

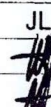
3.0 PARTS LIST:

Qty. -011	PART NUMBER	DESCRIPTION
X	DSI 9685-011	CROSSBOLT SPACER KIT
6	D5101-041	CROSSBOLT SPACER ASSEMBLY
12	D5101-3	INSERT
12	D5101-5	INSERT
6	AN4C46A	BOLT
6	MS21043-4	NUT
24	NAS11490D0416J	WASHER

4.0 WEIGHT AND BALANCE

Incorporating this DSI causes the following weight and balance changes

Installation	Weight	LONGITUDINAL		LATERAL	
		Arm	Moment	Arm	Moment
DSI 9685-011 CROSSBOLT SPACER KIT	1.5 lb 0.68 kg	208.0 in 5.3 m	312 in-lb 3.6 kg-m	0.0 in 0.0 m	0.0 in-lb 0.0 kg-m

A	NEW ISSUE	AK	14.07.30
REV.	DESCRIPTION	BY	DATE
DESIGN	AK	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AK		
CHECKED	HS	DRAWING NO.	REV. A
MFG. APPR.	JL	DSI 9685	SHEET 1 OF 2
APPROVED		TITLE	SCALE
DE APPR.		CROSSBOLT SPACER KIT	NTS
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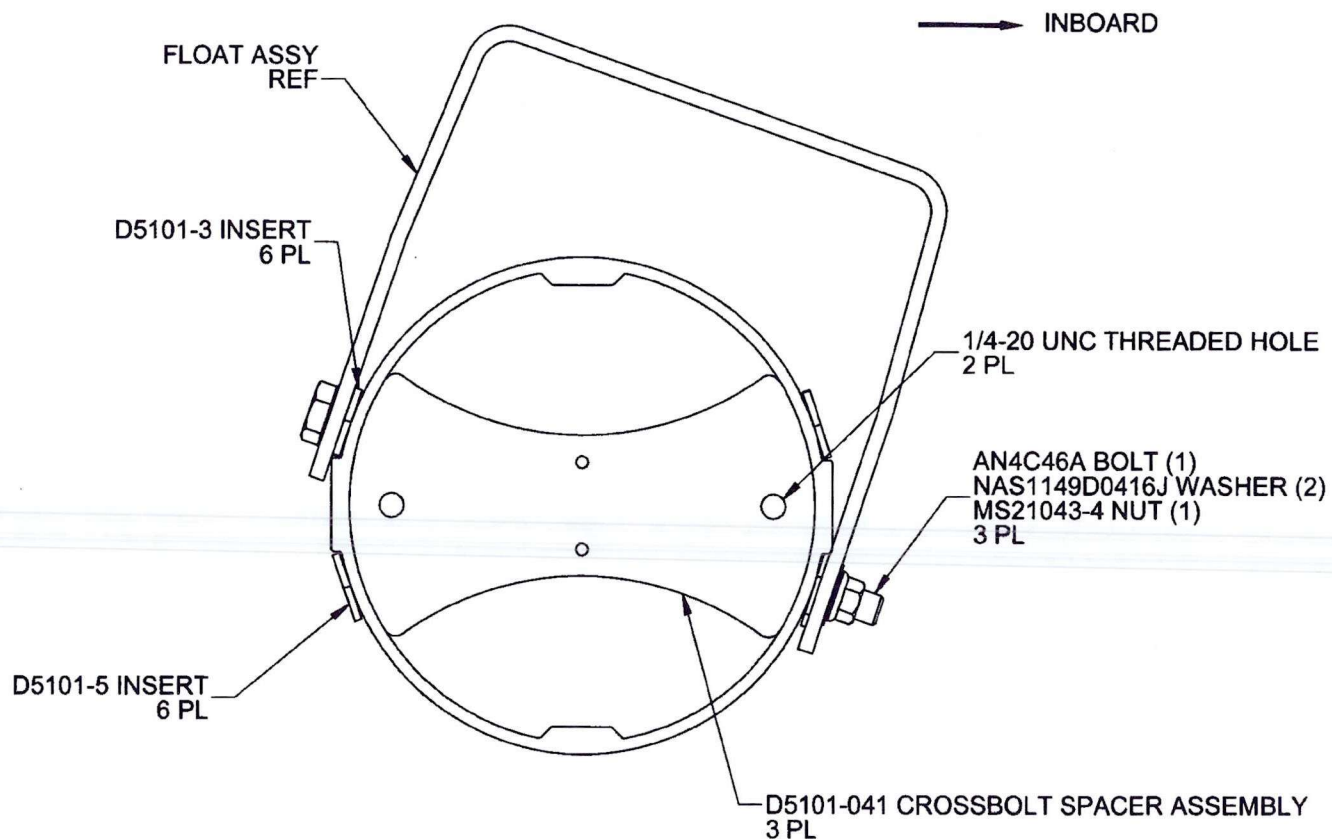


FIGURE 1: D5101-041 SPACER INSTALLATION

DESIGN	AK	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AK		
CHECKED	HS	DRAWING NO.	REV. A
MFG. APPR.	JL	DSI 9685	SHEET 2 OF 2
APPROVED		TITLE	SCALE
DE APPR.		CROSSBOLT SPACER KIT	NTS
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Work Order Summary

Thursday, July 27, 2017 2:38:26 PM

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Criteria : Work Order ID: 129393 Item ID: D119-646-243 Product Family SKIDTUBES
Work Order Start Dates 2/5/2015 to 2/5/2015 11:59:59 PM Work Order Required Dates 3/31/2016 to 3/31/2016 11:59:59 PM
Reference: ECN 14-628
Work Order Status Costed

Work Order ID 129393 Required Qty 1.0000 Status Code Costed
Item ID D119-646-243 Accepted Qty 0.0000 Scrap Qty 0.0000
Item Name AW119 Repl. Skidtube with Heavy Duty Wearplates, Float Compatible -Fits LH or RH
Current Acct Value \$4,592.239
Start Date 2/5/2015 Required Date 3/31/2016 Completed Date 5/24/2017 1:37:52 PM

Rework	** Actual **	** Acct. Value **	** Variance **	** Variance % **
Direct Costs	Total	Each	Each	Each
Material	\$952.215	\$0.000	\$952.215	100.00%
Labor	\$742.973	\$0.000	\$742.973	100.00%
Outplant	\$0.000	\$0.000	\$0.000	0.00%
Variable Burden	\$3.406	\$0.000	\$3.406	100.00%
Fixed Burden	\$1,651.208	\$0.000	\$1,651.208	100.00%
Material Burden	\$0.000	\$0.000	\$0.000	0.00%
** Total **	\$3,349.803	\$0.000	\$3,349.803	

Item ID/Item Name	Required Qty	Issue Code	Issue Date	Issued Qty	Cost Amount
D119-646-243					
AW119 Repl. Skidtube with Heavy Duty Wearplates, Float Compatible -Fits LH or RH	1.0000		2/5/2015	1.0000	\$3,349.803
Total Matl Amts:					\$3,349.803

Work Order Summary

Thursday, July 27, 2017 2:48:45 PM

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Criteria : Work Order ID: 129386 Item ID: D119-646-114 Product Family SKIDTUBES
Work Order Start Dates 2/5/2015 to 2/5/2015 11:59:59 PM Work Order Required Dates 2/6/2015 to 2/6/2015
11:59:59 PM
Reference: ECN 14-628
Work Order Status Released

Work Order ID 129386 Required Qty 1.0000 Status Code Released
Item ID D119-646-114 Accepted Qty 0.0000 Scrap Qty 0.0000
Item Name AW119 Skidtube with Wearplates & Wearpads, Float Compatible - RH
Current Acct Value \$5,257.568

Start Date 2/5/2015 Required Date 2/6/2015 Completed Date

Rework ** Actual ** ** Acct. Value ** ** Variance ** ** Variance % **

Direct Costs	Total	Each	Each	Each	Each
Material	\$1,189.025	\$0.000	\$1,194.174	\$1,194.174	100.00%
Labor	\$1,243.397	\$0.000	\$1,120.211	\$1,120.211	100.00%
Outplant	\$286.688	\$0.000	\$0.000	\$0.000	0.00%
Variable Burden	\$21.553	\$0.000	\$21.553	\$21.553	100.00%
Fixed Burden	\$2,722.198	\$0.000	\$2,406.172	\$2,406.172	100.00%
Material Burden	\$0.000	\$0.000	\$0.000	\$0.000	0.00%
** Total **	\$5,462.861	\$0.000	\$4,742.111	\$4,742.111	

Item ID/Item Name	Required Qty	Issue Code	Issue Date	Issued Qty	Cost Amount
PO ID	PO Line Nbr	PO Receiver Date	Domestic Unit Price	PO Receipt Qty	Domestic Received Amt
AN3C50A					
Bolt					
PO Rout Seq ID		PO Vendor ID	VC-IMI001		
PO29548	4	8/31/2015 9:47:37 AM	\$286.6875	1.0000	\$286.688
					10/25/2016
					3.0000
					(\$65.149)
D119-646-114					
AW119 Skidtube with Wearplates & Wearpads, Float Compatible - RH					
			1.0000		2/5/2015
					1.0000
					\$4,742.111
					Total Matl Amts:
					\$4,736.962

Invoice Rout Seq ID Invoice Vendor ID VC-IMI001

Invoice ID	Invoice Line Nbr	Invoice Date	Invoice Unit Price	Invoice Qty	Invoice Amt
IN502152	4	9/1/2015 3:16:15 PM	278.7028266	1.0000	\$278.703

Work Center HandFinish

Employee ID	Rout Seq ID	Labor Date	Setup Hours	Actual Setup Hours	Labor Hours	Actual Labor Hours	Nbr of WOs	Setup Amount	Labor Amount	Fix Burd Amount	Var Burd Amount	Total Amounts
LAUG01												
	6/29/2015											
113			0.00	0.00	0.83	0.83	1.00	\$0.000	\$16.656	\$50.426	\$0.000	\$67.082
LERO01												
	9/8/2015											
113			0.00	0.00	0.33	0.33	1.00	\$0.000	\$6.666	\$20.181	\$0.000	\$26.847
Total:			0.00	0.00	1.17	1.17	2.00	\$0.000	\$23.322	\$70.607	\$0.000	\$93.929

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Work Order Summary

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Work Center Skidtubes

Employee ID	Rout Seq ID	Labor Date	Setup Hours	Actual Setup Hours	Labor Hours	Actual Labor Hours	Nbr of WOs	Setup Amount	Labor Amount	Fix Burd Amount	Var Burd Amount	Total Amounts
ELLI01												
	3/17/2015											
108			0.00	0.00	1.18	1.18	1.00	\$0.000	\$25.682	\$61.238	\$0.000	\$86.920
	9/3/2015											
108			0.00	0.00	0.50	0.50	1.00	\$0.000	\$10.885	\$25.955	\$0.000	\$36.840
108			0.00	0.00	0.42	0.42	1.00	\$0.000	\$9.072	\$21.631	\$0.000	\$30.703
PAQU03												
	3/3/2015											
108			0.00	0.00	0.82	0.82	1.00	\$0.000	\$17.790	\$42.421	\$0.000	\$60.211
	3/4/2015											
108			0.00	0.00	0.87	0.87	1.00	\$0.000	\$18.933	\$45.146	\$0.000	\$64.080
	11/26/2015											
108			0.00	0.00	0.58	0.58	1.00	\$0.000	\$12.698	\$33.196	\$0.000	\$45.894
Total:			0.00	0.00	4.37	4.37	6.00	\$0.000	\$95.061	\$229.587	\$0.000	\$324.648

Work Center SprayPaint

Employee ID	Rout Seq ID	Labor Date	Setup Hours	Actual Setup Hours	Labor Hours	Actual Labor Hours	Nbr of WOs	Setup Amount	Labor Amount	Fix Burd Amount	Var Burd Amount	Total Amounts
SHEL02												
	7/27/2017											
116			0.00	0.00	0.52	0.26	2.00	\$0.000	\$4.803	\$15.832	\$0.000	\$20.634
Total:			0.00	0.00	0.52	0.26	2.00	\$0.000	\$4.803	\$15.832	\$0.000	\$20.634

Work Order Summary

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Criteria : Work Order ID: 129385 Item ID: D119-646-113 Product Family SKIDTUBES
Work Order Start Dates 2/5/2015 to 2/5/2015 11:59:59 PM Work Order Required Dates 2/6/2015 to 2/6/2015
11:59:59 PM
Reference: ECN 14-628
Work Order Status Released

Work Order ID 129385 Required Qty 1.0000 Status Code Released
Item ID D119-646-113 Accepted Qty 0.0000 Scrap Qty 0.0000
Item Name AW119 Skidtube with Wearplates & Wearpads, Float Compatible - LH
Current Acct Value \$4,654.550

Start Date 2/5/2015 Required Date 2/6/2015 Completed Date

Rework ** Actual ** ** Acct. Value ** ** Variance ** ** Variance % **

Direct Costs	Total	Each	Each	Each	Each
Material	\$1,188.329	\$0.000	\$1,202.059	\$1,202.059	100.00%
Labor	\$1,301.187	\$0.000	\$1,174.905	\$1,174.905	100.00%
Outplant	\$286.688	\$0.000	\$0.000	\$0.000	0.00%
Variable Burden	\$21.553	\$0.000	\$21.553	\$21.553	100.00%
Fixed Burden	\$2,833.935	\$0.000	\$2,523.888	\$2,523.888	100.00%
Material Burden	\$0.000	\$0.000	\$0.000	\$0.000	0.00%
** Total **	\$5,631.691	\$0.000	\$4,922.405	\$4,922.405	

Item ID/Item Name	Required Qty	Issue Code	Issue Date	Issued Qty	Cost Amount	
PO ID	PO Line Nbr	PO Receiver Date	Domestic Unit Price	PO Receipt Qty	Domestic Received Amt	Certification Standard
AN3C50A						
Bolt						
PO Rout Seq ID		PO Vendor ID	VC-IMI001			
		8.0000				
PO29548	3	8/31/2015 9:47:37 AM	\$286.6875	1.0000	\$286.688	8.0000 \$160.000
					10/25/2016	-8.0000 (\$173.730)
D119-646-113						
AW119 Skidtube with Wearplates & Wearpads, Float Compatible - LH						
			1.0000		2/5/2015	1.0000 \$4,922.405
						Total Matl Amts: \$4,908.674

Invoice Rout Seq ID Invoice Vendor ID VC-IMI001

Invoice ID	Invoice Line Nbr	Invoice Date	Invoice Unit Price	Invoice Qty	Invoice Amt
IN502152	3	9/1/2015 3:16:15 PM	278.7028266	1.0000	\$278.703

Work Center HandFinish

Employee ID	Rout Seq ID	Labor Date	Setup Hours	Actual Setup Hours	Labor Hours	Actual Labor Hours	Nbr of WOs	Setup Amount	Labor Amount	Fix Burd Amount	Var Burd Amount	Total Amounts
LER001												
		9/8/2015										
113			0.00	0.00	0.50	0.50	1.00	\$0.000	\$10.000	\$30.275	\$0.000	\$40.275
		Total:	0.00	0.00	0.50	0.50	1.00	\$0.000	\$10.000	\$30.275	\$0.000	\$40.275

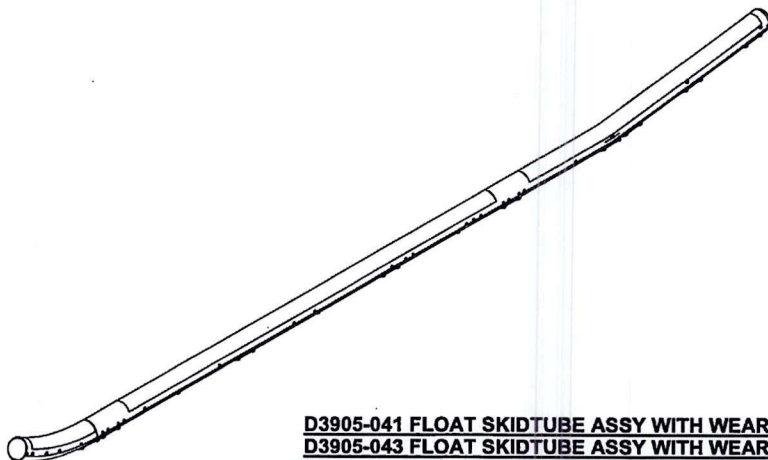
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Work Order Summary

Page 1 of 2

Work Center Skidtubes

Employee ID	Rout Seq ID	Labor Date	Setup Hours	Actual Setup Hours	Labor Hours	Actual Labor Hours	Nbr of WOs	Setup Amount	Labor Amount	Fix Burd Amount	Var Burd Amount	Total Amounts
ELLI01												
		3/17/2015										
108			0.00	0.00	1.03	1.03	1.00	\$0.000	\$22.332	\$53.249	\$0.000	\$75.581
108			0.00	0.00	0.67	0.67	1.00	\$0.000	\$14.677	\$34.998	\$0.000	\$49.675
		9/3/2015										
108			0.00	0.00	0.75	0.75	1.00	\$0.000	\$16.328	\$38.933	\$0.000	\$55.260
LAUG01												
		6/29/2015										
108			0.00	0.00	0.34	0.34	1.00	\$0.000	\$7.354	\$17.535	\$0.000	\$24.889
108			0.00	0.00	0.61	0.61	1.00	\$0.000	\$13.232	\$31.551	\$0.000	\$44.783
PAQU03												
		3/5/2015										
108			0.00	0.00	1.45	1.45	1.00	\$0.000	\$31.475	\$75.052	\$0.000	\$106.527
		11/26/2015										
108			0.00	0.00	0.50	0.50	1.00	\$0.000	\$10.885	\$28.455	\$0.000	\$39.340
Total:			0.00	0.00	5.34	5.34	7.00	\$0.000	\$116.282	\$279.772	\$0.000	\$396.054



D3905-041 FLOAT SKIDTUBE ASSY WITH WEARPAD (SHOWN)
D3905-043 FLOAT SKIDTUBE ASSY WITH WEARPLATE (SIMILAR)
D3905-045 FLOAT SKIDTUBE ASSY WITH TRAINING WEARPLATE (SIMILAR)

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WITHOUT NOTICE
 WORK ORDER

NO. 164685

AUG 08 2017

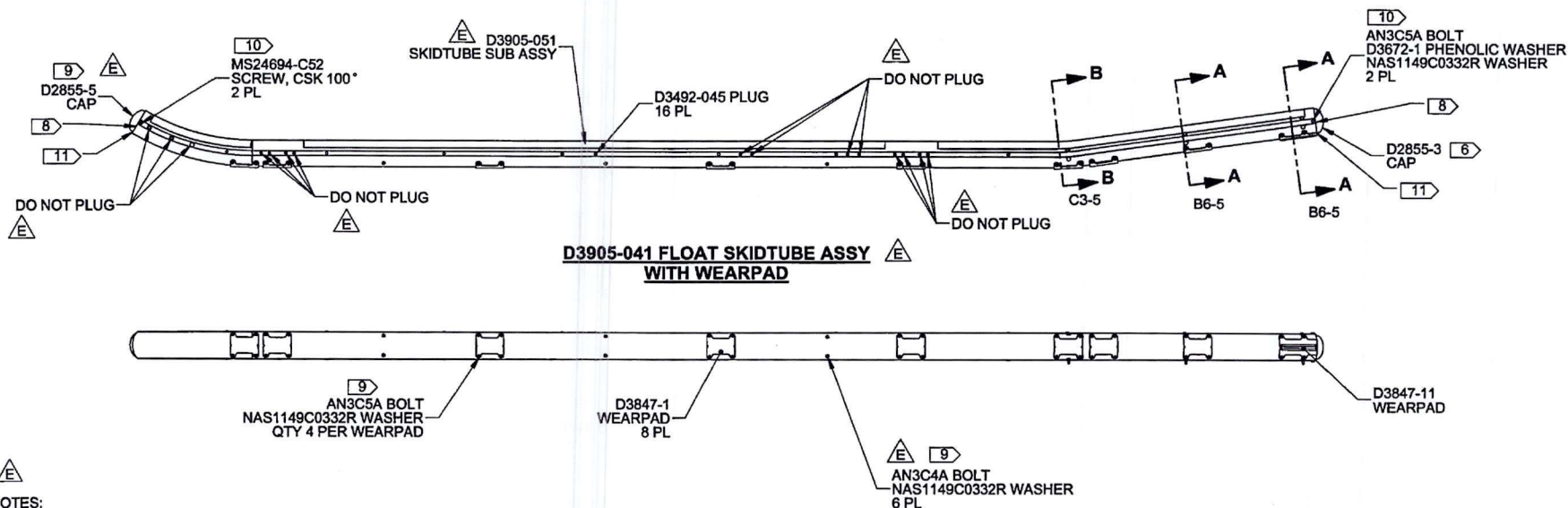
E	COMPLETE REDRAW SEE PREVIOUS REV. AFT FLOAT HOLE NOW Ø0.465 WAS Ø0.437 FINISH REMOVED FROM SADDLE AREA SEE DETAIL F. REF PART15-421 CHANGE QTY OF D2855-3, ADDED D2855-5 CAP ASSEMBLIES, ADDED INSTRUCTIONS TO LOCATE INSERT HOLE FOR D2855-5 CAP, REF PART17-583 ADDED DRILL JIG REF NUMBER, NCR15-5366 INCREASE RIDGE RELIEF FROM 0.080 TO 0.130. REF PART17-574	AJS / WK	17.03.13
D	REVISED DIMENSIONS AND PROVIDED TOLERANCE TO SKIDTUBE OVERALL LENGTH PAGE 5-6 REVISED NOTE 2 AND NOTE 7 PAGE 1 (ZN B8- ZN A8-1) REVISED -041/-043/-045 DRAWING VIEWS, REVISED SECTION VIEW F-F (ZN B4-7). REVISED BOM REF. PART15-299 AND PART15-272	AK	14.08.08
C	(SHT 1 PL. ZN C2-2, C2-3, C2-4) ITEM 13, QTY 2 WAS 4, ITEM 42 AND 45, QTY 44 WAS 46, ADD ITEM 49, MS24894-C52 WAS AN3C5A, D3672-1 AND NAS1149C0332R, (ZN C7-7) Ø0.201 CSK Ø0.385 X 100" WAS Ø0.204 THRU, (ZN A4-5, A4-6) ADD RELIEF INSTRUCTION, ADD ITEM 10, CROSS BOLT SPACER (ZN D4-1, C6-7, D8-7)	DB	13.02.21
B	REVISED PART LIST, ALS4-1032-130 WAS AELS-1032-130 (ZN A8-5, A5-6, C5-7, C3-7, A5-7); ADD DT8932 (ZN A8-1); D2855-3 WAS D2575 (ZN C8-2, C1-2, C8-3, C1-3, C8-4, C1-4); AN3C5A WAS AN3C4A (ZN C7-2, C1-2, C7-3, C1-3, C7-4, C1-4); D3849-047 WAS D3849-041 (ZN B3-4); ADD D3411-3 (ZN B3-4); ADD AN3C50A (ZN B3-4); Ø0.313 WAS Ø0.328 (B2-5, B2-6, C2-7, A8-7 & D7-8), REVISED NOTE IV (ZN A8-7)	RF	09.06.30
A	NEW ISSUE	RF	09.03.30
REV.	DESCRIPTION	BY	DATE
DESIGN	AJS	DART AEROSPACE USA, INC.	
DRAWN	WK	EUGENE, OR	
CHECKED	VS	DRAWING NO.	REV. E
MFG. APPR.	DD	D3905	SHEET 1 OF 14
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	A119 FLOAT SKIDTUBE ASSY	NTS
DATE	17.03.13	COPYRIGHT © 2009 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

RELEASED
 2017-05-08
 ECN 17-519

APPROVED

ITEM	QTY -041	P/N	DESCRIPTION
	X	D3905-041	SKIDTUBE ASSY
1	1	D2855-3	CAP
2	1	D2855-5	CAP
3	16	D3492-045	PLUG
4	2	D3672-1	PHENOLIC WASHER
5	8	D3847-1	WEARPAD
6	1	D3847-11	WEARPAD
7	1	D3905-051	SKIDTUBE SUB ASSEMBLY
8	2	D5101-041	CROSSBOLT SPACER ASSY
9	1	D5101-047	CROSSBOLT SPACER ASSY
10	6	D5101-3	INSERT
11	6	D5101-5	INSERT

ITEM	QTY -041	P/N	DESCRIPTION
12	1	ALS4-1032-225	INSERT
13	6	AN3C4A	BOLT
14	38	AN3C5A	BOLT
15	3	AN4C46A	BOLT
16	3	MS21043-4	NUT, SELF-LOCKING
17	2	MS24694-C52	SCREW, CSK 100"
18	44	NAS1149C0332R	WASHER
19	6	NAS1149C0416R	WASHER



**D3905-041 FLOAT SKIDTUBE ASSY
WITH WEARPAD**

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3905-041" AND BATCH NUMBER PER QSI 044 6.4 ON THE ID OF THE TUBE, BEFORE INSTALLING THE AFT D2855-3 CAP
- 7) WEIGHT: 35.4 lbs
- 8) RELIEVE INNER RIDGE OF EXTRUSION, AS NEEDED, TO ALLOW FOR INSTALLATION OF D2855-3 AND D2855-5 CAP ASSY, ALODINE BARE MATERIAL
- 9) USE D3905-051 SKIDTUBE ASSY TO LOCATE AND BACKDRILL UNDRILLED INSERT HOLE INTO D2855-5 CAP, OPEN HOLE TO $\phi 0.297$, ALODINE BARE MATERIAL AND INSTALL ALS4-1032-225 (OR AKS7-1032-225, OR ALS7-1032-225, OR AKS4-1032-225) INSERT ON INSIDE OF CAP.
- 10) SEAL FASTENERS WITH SIKAFLEX -241/291 OR PROSEAL 890 OR MIL-S-8802 CLASS B2 SEALANT
- 11) SEAL MATING SURFACES WITH SIKAFLEX -241/291 OR PROSEAL 890 OR MIL-S-8802 CLASS B2 SEALANT

RELEASED
2017-05-08

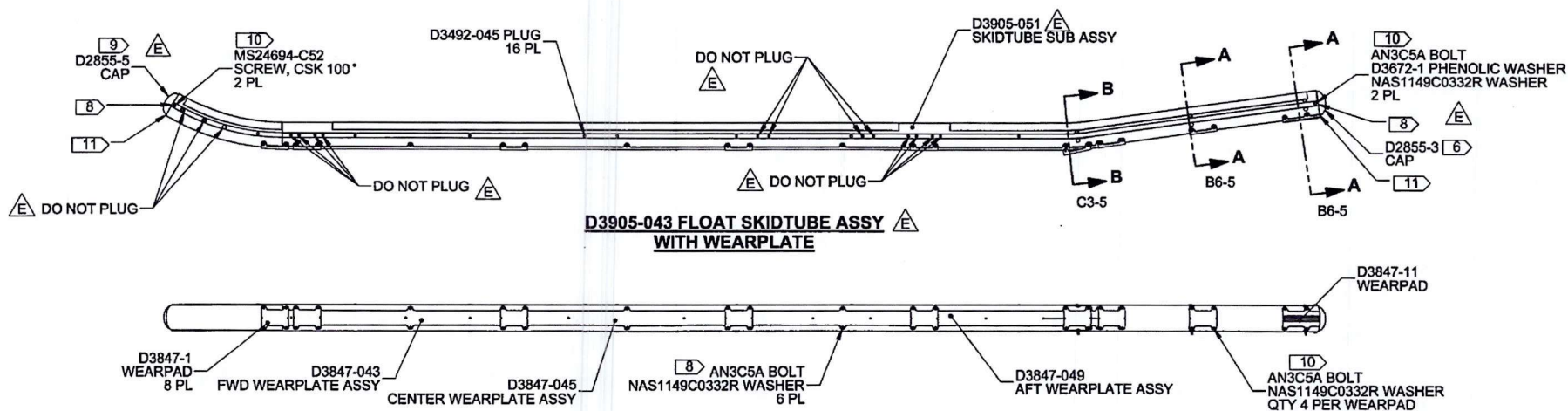
APPROVED

DESIGN	AJS	DART AEROSPACE USA, INC.
DRAWN	WK	EUGENE, OR
CHECKED	VS	DRAWING NO. D3905
MFG. APPR.	DD	REV. E
APPROVED	HS	SHEET 2 OF 14
DE APPR.	DS	TITLE A119 FLOAT SKIDTUBE ASSY
DATE	17.03.13	SCALE NTS

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ITEM	QTY -043	P/N	DESCRIPTION
	X	D3905-043	FLOAT SKIDTUBE ASSY
1	1	D2855-3	CAP
2	1	D2855-5	CAP
3	16	D3492-045	PLUG
4	2	D3672-1	PHENOLIC WASHER
5	1	D3847-043	FWD WEARPLATE ASSY
6	1	D3847-045	CENTER WEARPLATE ASSY
7	1	D3847-049	AFT WEARPLATE ASSY
8	8	D3847-1	WEARPAD
9	1	D3847-11	WEARPAD
10	1	D3905-051	SKIDTUBE SUB ASSEMBLY
11	2	D5101-041	CROSSBOLT SPACER ASSY
12	1	D5101-047	CROSSBOLT SPACER ASSY
13	6	D5101-3	INSERT
14	6	D5101-5	INSERT

ITEM	QTY -043	P/N	DESCRIPTION
15	1	ALS4-1032-225	INSERT
16	44	AN3C5A	BOLT
17	3	AN4C46A	BOLT
18	3	MS21043-4	NUT, SELF-LOCKING
19	2	MS24694-C52	SCREW, CSK 100°
20	44	NAS1149C0332R	WASHER
21	6	NAS1149C0416R	WASHER



NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3905-043" AND BATCH NUMBER PER QSI 044 6.4 ON THE ID OF THE TUBE, BEFORE INSTALLING THE AFT D2855-3 CAP
- 7) WEIGHT: 42.8 lbs
- 8) RELIEVE INNER RIDGE OF EXTRUSION, AS NEEDED, TO ALLOW FOR INSTALLATION OF D2855-3 AND D2855-5 CAP ASSY, ALODINE BARE MATERIAL
- 9) USE D3905-051 SKIDTUBE ASSY TO LOCATE AND BACKDRILL INSERT HOLE INTO D2855-5 CAP, OPEN HOLE TO $\varnothing 0.297$. ALODINE BARE MATERIAL AND INSTALL ALS4-1032-225 (OR AKS7-1032-225, OR ALS7-1032-225, OR AKS4-1032-225) INSERT ON INSIDE OF CAP.
- 10) SEAL FASTENERS WITH SIKAFLEX -241/291 OR PROSEAL 890 OR MIL-S-8802 CLASS B2 SEALANT
- 11) SEAL MATING SURFACES WITH SIKAFLEX -241/291 OR PROSEAL 890 OR MIL-S-8802 CLASS B2 SEALANT

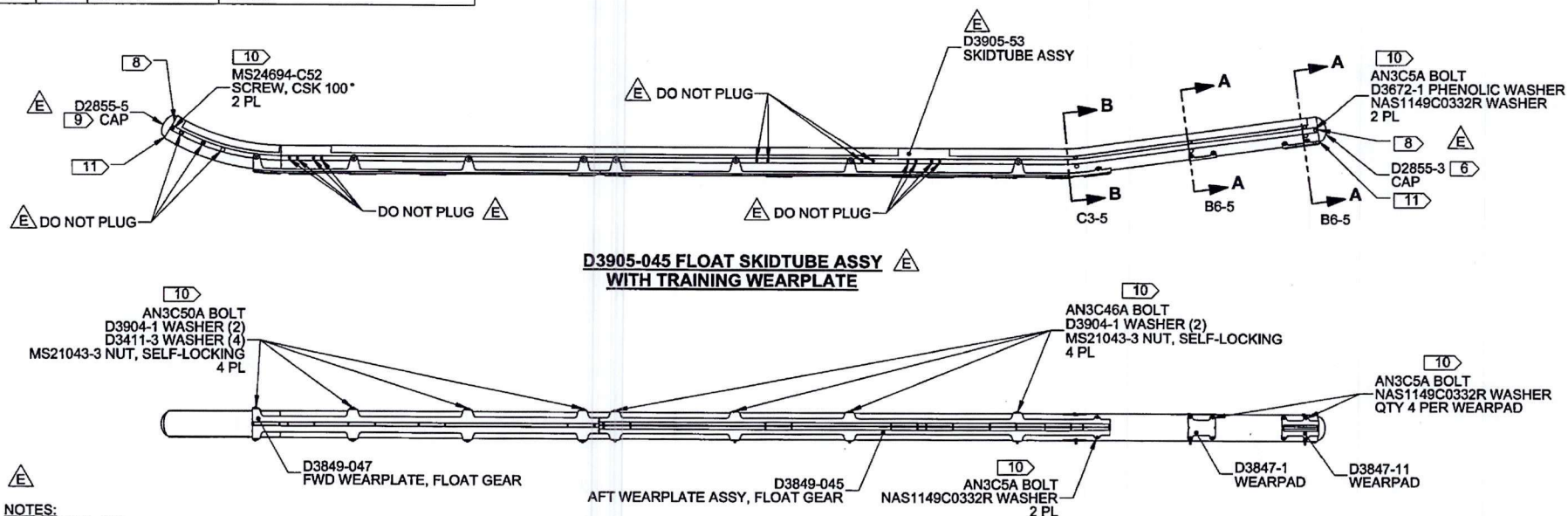
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MFG. APPR.	DD	D3905	SHEET 3 OF 14
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	A119 FLOAT SKIDTUBE ASSY	NTS
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ITEM	QTY	P/N	DESCRIPTION
	X	D3905-045	FLOAT SKIDTUBE ASSY
1	1	D2855-3	CAP
2	1	D2855-5	CAP
3	16	D3411-3	WASHER
4	2	D3672-1	PHENOLIC WASHER
5	1	D3847-1	WEARPAD
6	1	D3847-11	WEARPAD
7	1	D3849-045	AFT WEARPLATE ASSY, FLOAT GEAR
8	1	D3849-047	FWD WEARPLATE, FLOAT GEAR
9	16	D3904-1	WASHER
10	1	D3905-053	SKIDTUBE SUB ASSEMBLY
11	2	D5101-041	CROSSBOLT SPACER ASSY
12	1	D5101-047	CROSS BOLT SPACER
13	6	D5101-3	INSERT
14	6	D5101-5	INSERT

ITEM	QTY	P/N	DESCRIPTION
15	1	ALS4-1032-225	INSERT
16	12	AN3C5A	BOLT
17	4	AN3C46A	BOLT
18	4	AN3C50A	BOLT
19	3	AN4C46A	BOLT
20	8	MS21043-3	NUT, SELF-LOCKING
21	3	MS21043-4	NUT, SELF-LOCKING
22	2	MS24694-C52	SCREW, CSK 100°
15	12	NAS1149C0332R	WASHER
24	6	NAS1149D0416J	WASHER



NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3905-045" AND BATCH NUMBER PER QSI 044 6.4 ON THE ID OF THE TUBE, BEFORE INSTALLING THE AFT D2855-3 CAP
- 7) WEIGHT: 48.0 lbs
- 8) RELIEVE INNER RIDGE OF EXTRUSION, AS NEEDED, TO ALLOW FOR INSTALLATION OF D2855-3 AND D2855-5 CAP ASSY, ALODINE BARE MATERIAL
- 9) USE D3905-053 SKIDTUBE ASSY TO LOCATE AND BACKDRILL UNDRILLED INSERT HOLE INTO D2855-5 CAP, OPEN HOLE TO $\varnothing 0.297$, ALODINE BARE MATERIAL AND INSTALL ALS4-1032-225 (OR AKS7-1032-225, OR ALS7-1032-225, OR AKS4-1032-225) INSERT ON INSIDE OF CAP.
- 10) SEAL FASTENERS WITH SIKAFLEX -241/291 OR PROSEAL 890 OR MIL-S-8802 CLASS B2 SEALANT
- 11) SEAL MATING SURFACES WITH SIKAFLEX -241/291 OR PROSEAL 890 OR MIL-S-8802 CLASS B2 SEALANT

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D3905	SHEET 4 OF 14
TITLE	SCALE
A119 FLOAT SKIDTUBE ASSY	NTS

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8 7 6 5 4 3 2 1

D

C

B

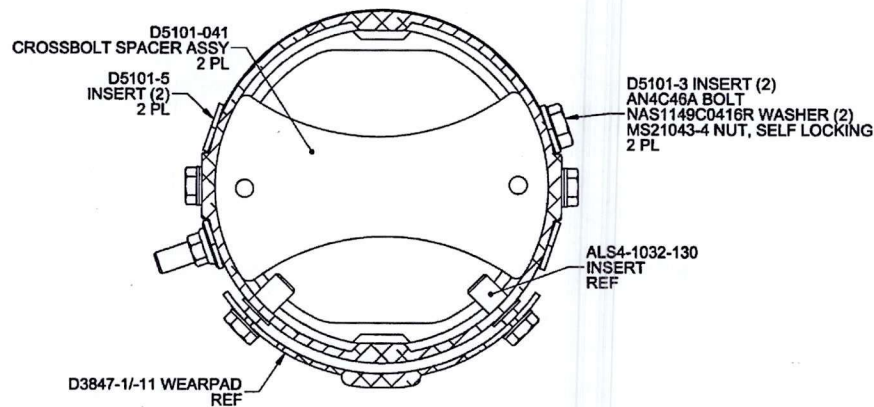
A

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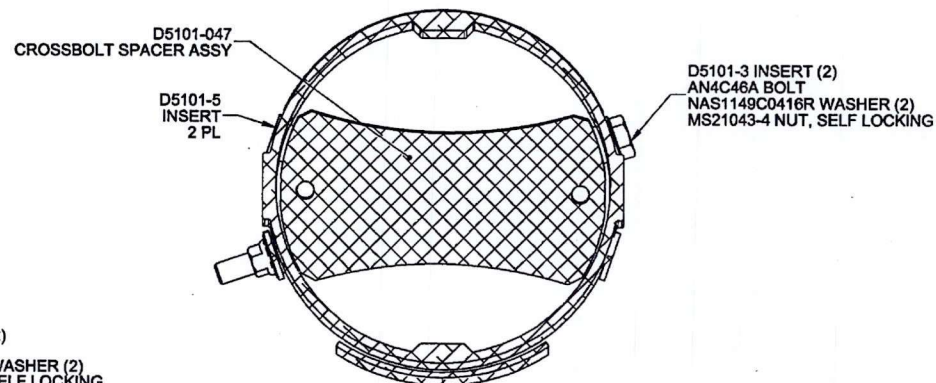
C

B

A



SECTION A-A
SCALE: 12X



SECTION B-B
SCALE 12X

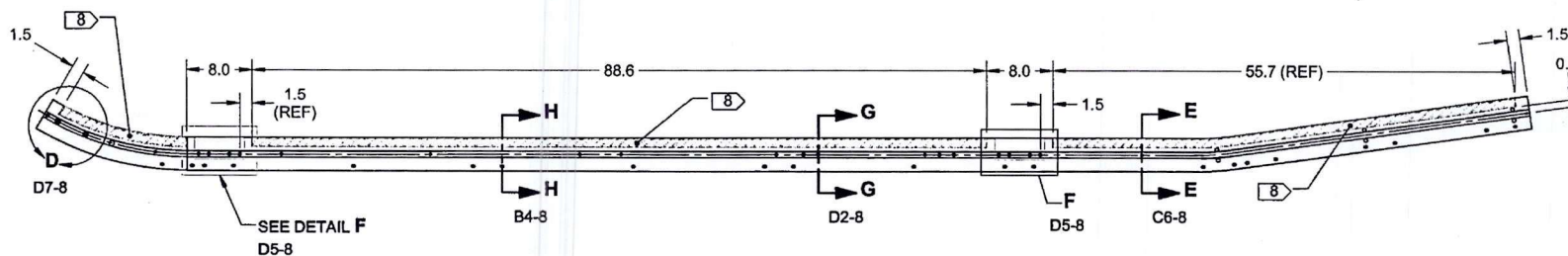
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8 7 6 5 4 3 2 1

ITEM	QTY	P/N	DESCRIPTION
	X	D3905-051	SKIDTUBE SUB ASSY
1	2	D2579	CROSS BOLT SPACER
2	8	D3681-1	SPACER
3	12	D3903-1	SPACER
4	1	D3905-061	SKIDTUBE SUB ASSEMBLY
5	42	ALS4-1032-130	INSERT



D3905-051 SKIDTUBE SUB ASSEMBLY

NOTES:

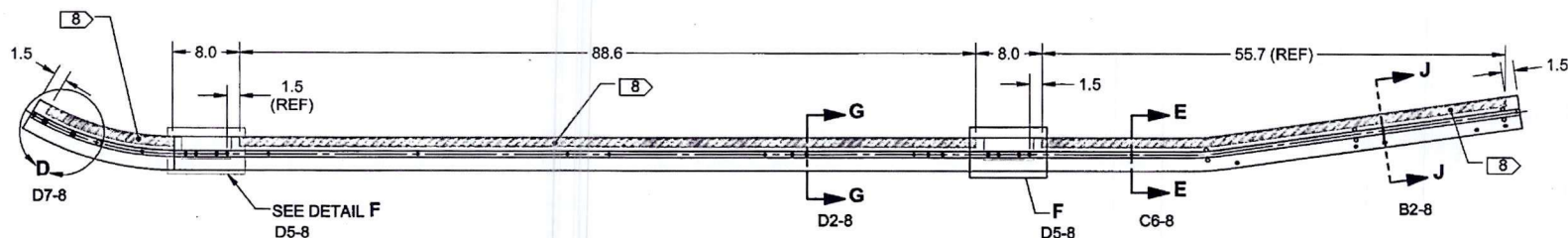
- 1) MATERIAL: N/A
- 2) FINISH: PRIME (REF 4.2.1.3.3) AND PAINT WHITE PER DART QSI 005 4.2.2.4
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY AT NEXT ASSEMBLY
- 7) WEIGHT: N/A
- 8) AFTER APPLICATION OF FINISH, PAINT TOP SURFACE OF SKIDTUBE WITH MIL-W-5044 ANTI-SKID PAINT (WING WALK) AS INDICATED TO 0.50" ABOVE LOCATION RIDGE, PER QSI 005 SECTION 4.4

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DE APPR.	DS	119 A119 FLOAT SKIDTUBE ASSY	NTS
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ITEM	QTY	P/N	DESCRIPTION
	X	D3905-053	SKIDTUBE SUB ASSY
1	2	D2579	CROSS BOLT SPACER
2	8	D3681-1	SPACER
3	12	D3903-1	SPACER
4	1	D3905-063	SKIDTUBE SUB ASSEMBLY
5	10	ALS4-1032-130	INSERT



D3905-053 SKIDTUBE SUB ASSEMBLY

NOTES:

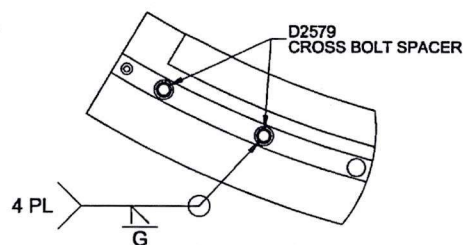
- 1) MATERIAL: N/A
- 2) FINISH: PRIME (REF 4.2.1.3.3) AND PAINT WHITE PER DART QSI 005 4.2.2.4
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY AT NEXT ASSEMBLY
- 7) WEIGHT: N/A
- 8) AFTER APPLICATION OF FINISH, PAINT TOP SURFACE OF SKIDTUBE WITH MIL-W-5044 ANTI-SKID PAINT (WING WALK) AS INDICATED TO 0.50" ABOVE LOCATION RIDGE, PER QSI 005 SECTION 4.4

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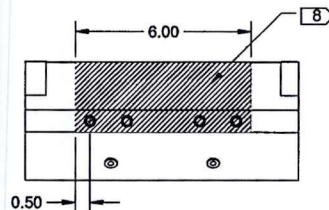
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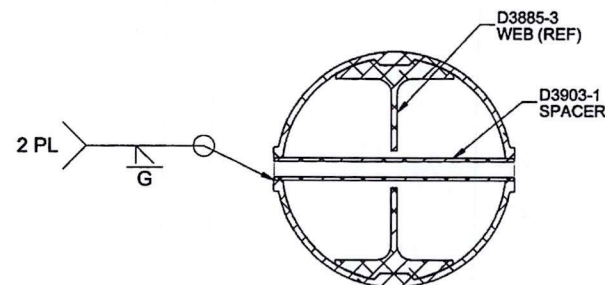
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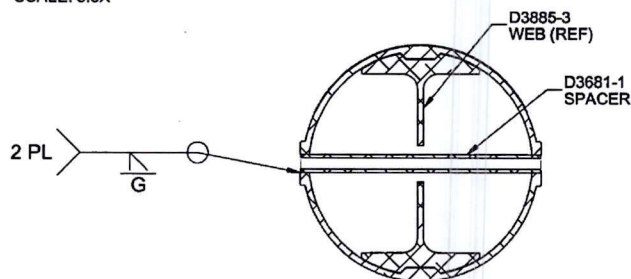
DETAIL D
SCALE: 3.5X



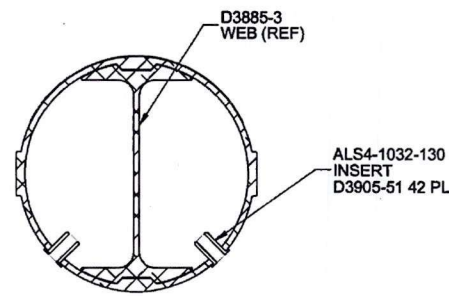
DETAIL F
SCALE: 3.5X



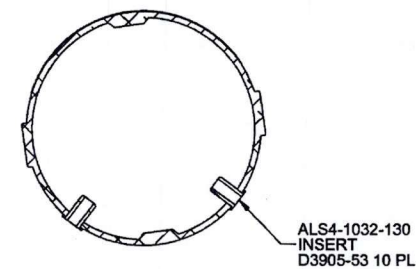
SECTION G-G
SCALE: 7X
12 PL



SECTION E-E
SCALE: 7X
8 PL



SECTION H-H
SCALE: 7X
D3905-51 21 PL



SECTION J-J
SCALE: 7X
D3905-53 5 PL

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: PRIME (REF 4.2.1.3.3) AND PAINT WHITE PER DART QSI 005 4.2.2.4
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY AT FINAL ASSEMBLY
- 7) WEIGHT: N/A
- 8) MASK THIS AREA AND DO NOT APPLY PRIMER OR PAINT
- 9) AFTER DRILLING AND BENDING ASSEMBLY, PERFORM THE FOLLOWING FOR THE SECTION G-G $\phi 0.375$ HOLES ONLY:
 - i) CHAMFER HOLES $\phi 0.475 \times 45^\circ$
 - ii) INSERT D3903-1 SPACER
 - iii) WELD INTO PLACE AND GRIND FLUSH
 - iv) C'BORE TO $\phi 0.313 \times 0.75$ DEEP
 - v) DEBURR HOLES
- 10) AFTER DRILLING AND BENDING ASSEMBLY, PERFORM THE FOLLOWING FOR THE SECTION E-E $\phi 0.313$ HOLES ONLY:
 - i) CHAMFER HOLES $\phi 0.354 \times 45^\circ$ OR 0.050 DEEP $\times 45^\circ$ (BOTH SIDES)
 - ii) INSERT D3681-1 SPACER
 - iii) WELD INTO PLACE AND GRIND FLUSH
 - iv) DEBURR HOLES
- 11) WELD PER DART QSI 004

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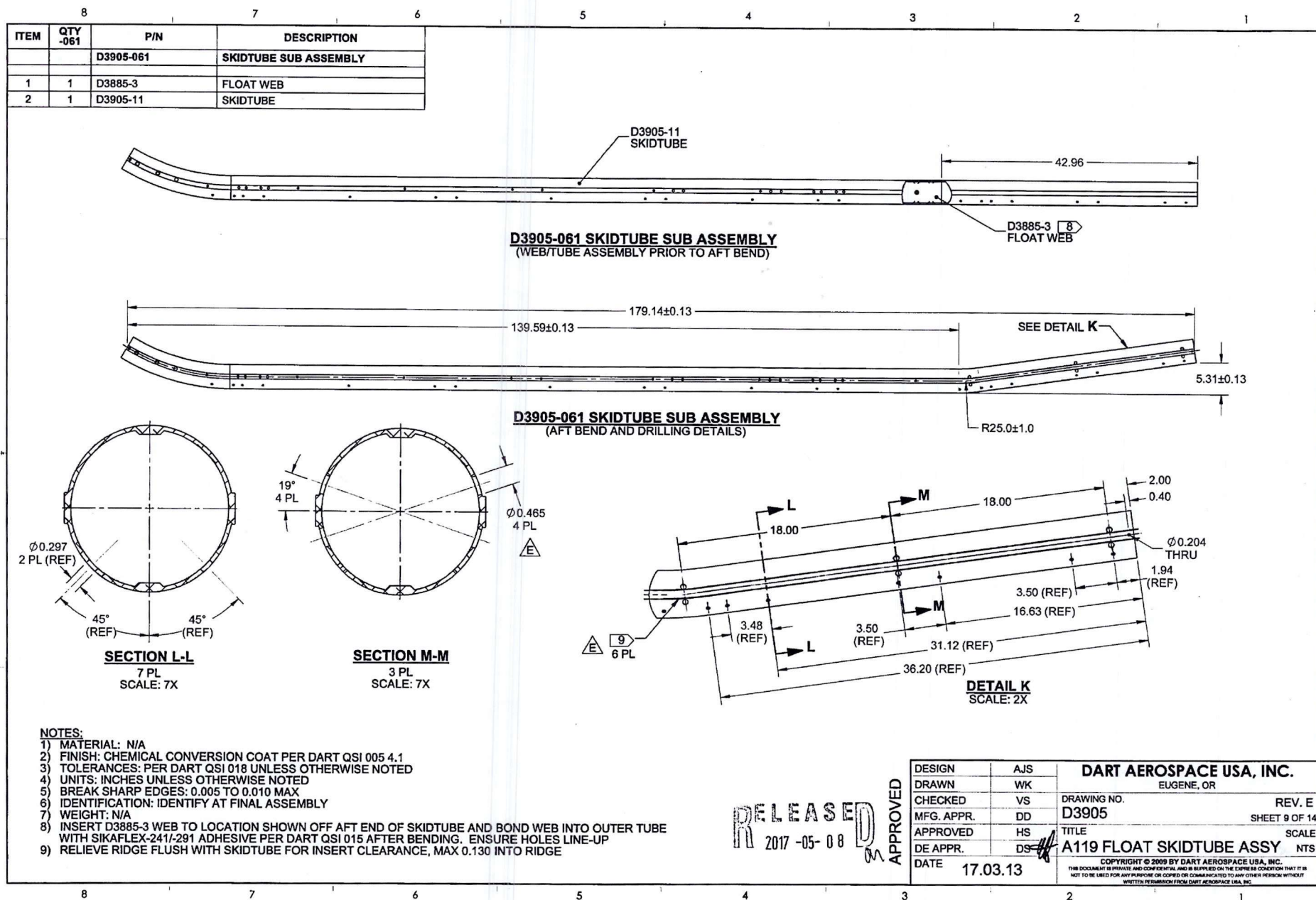
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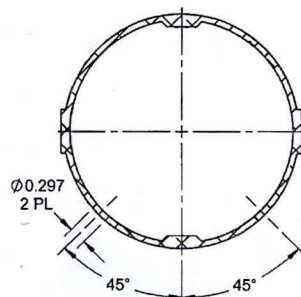
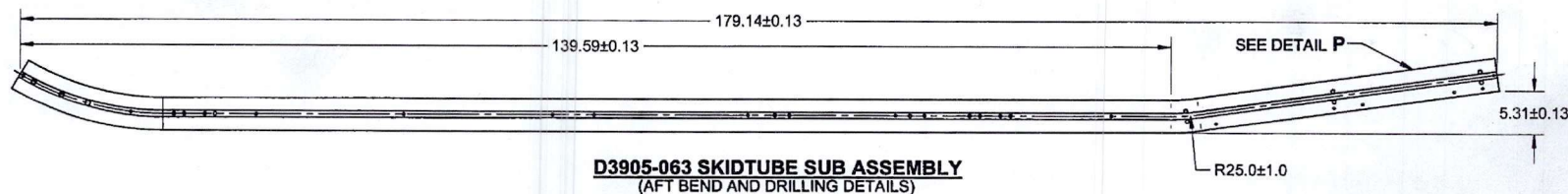
DRAWING NO.	REV. E
D3905	SHEET 8 OF 14
TITLE	SCALE
A119 FLOAT SKIDTUBE ASSY	NTS

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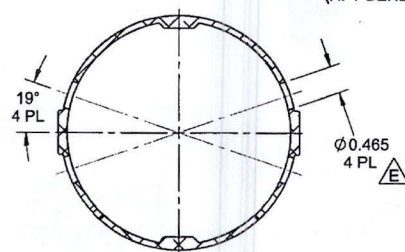
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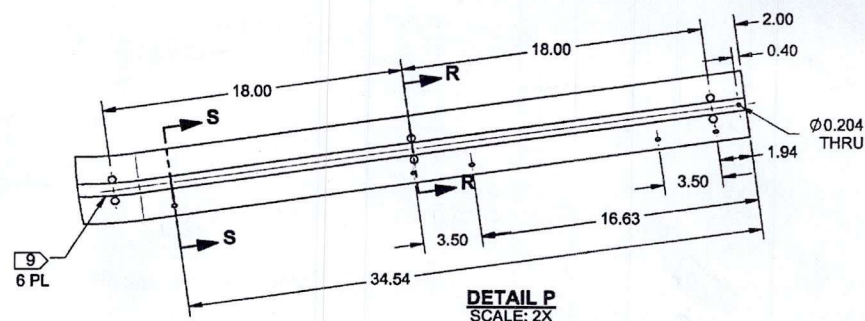
ITEM	QTY -063	P/N	DESCRIPTION
	X	D3905-063	SKIDTUBE SUB ASSEMBLY
1	1	D3885-3	FLOAT WEB
2	1	D3905-13	SKIDTUBE



SECTION S-S
5 PL
SCALE: 7X



SECTION R-R
3 PL
SCALE: 7X



DETAIL P
SCALE: 2X

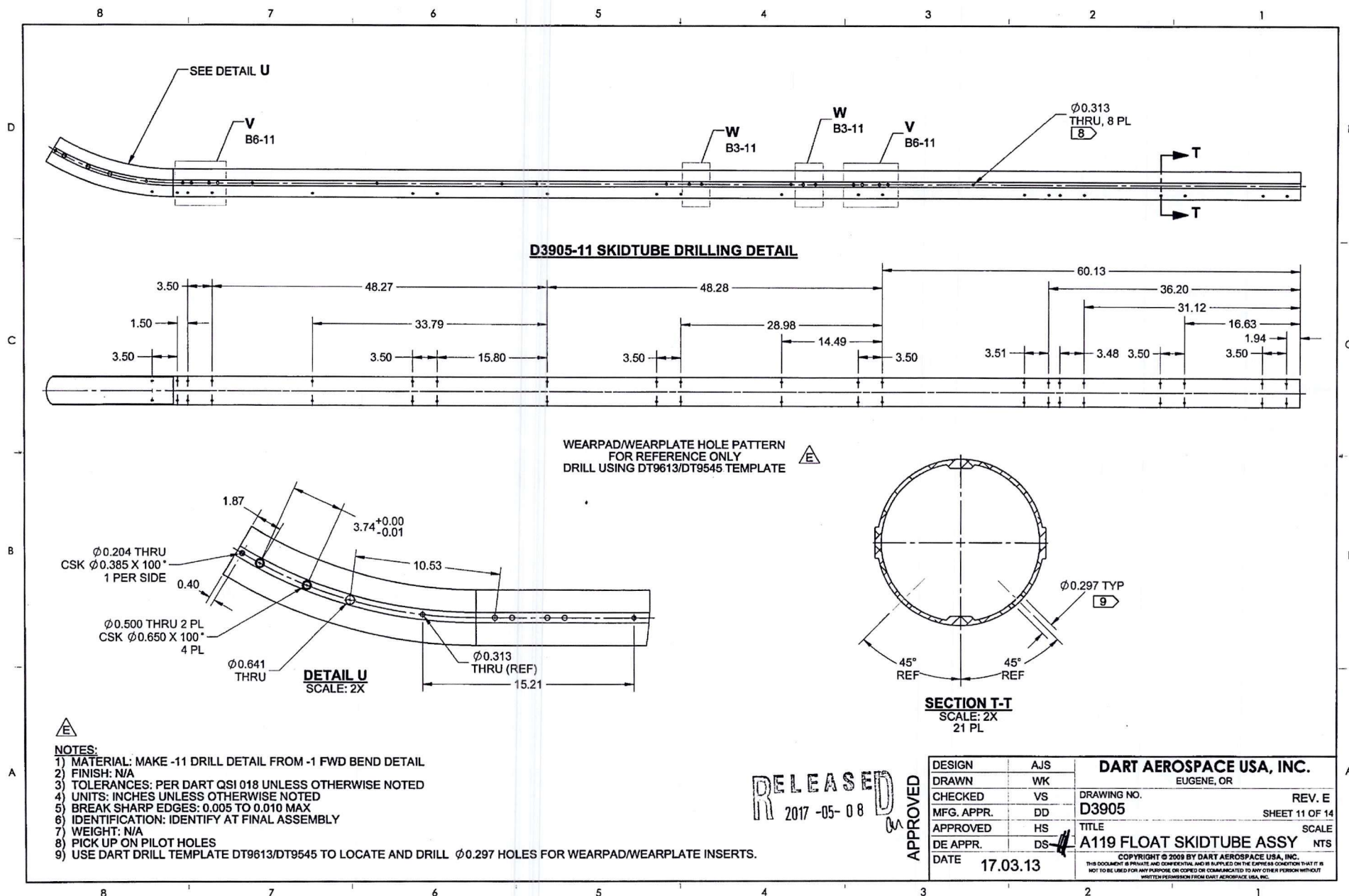
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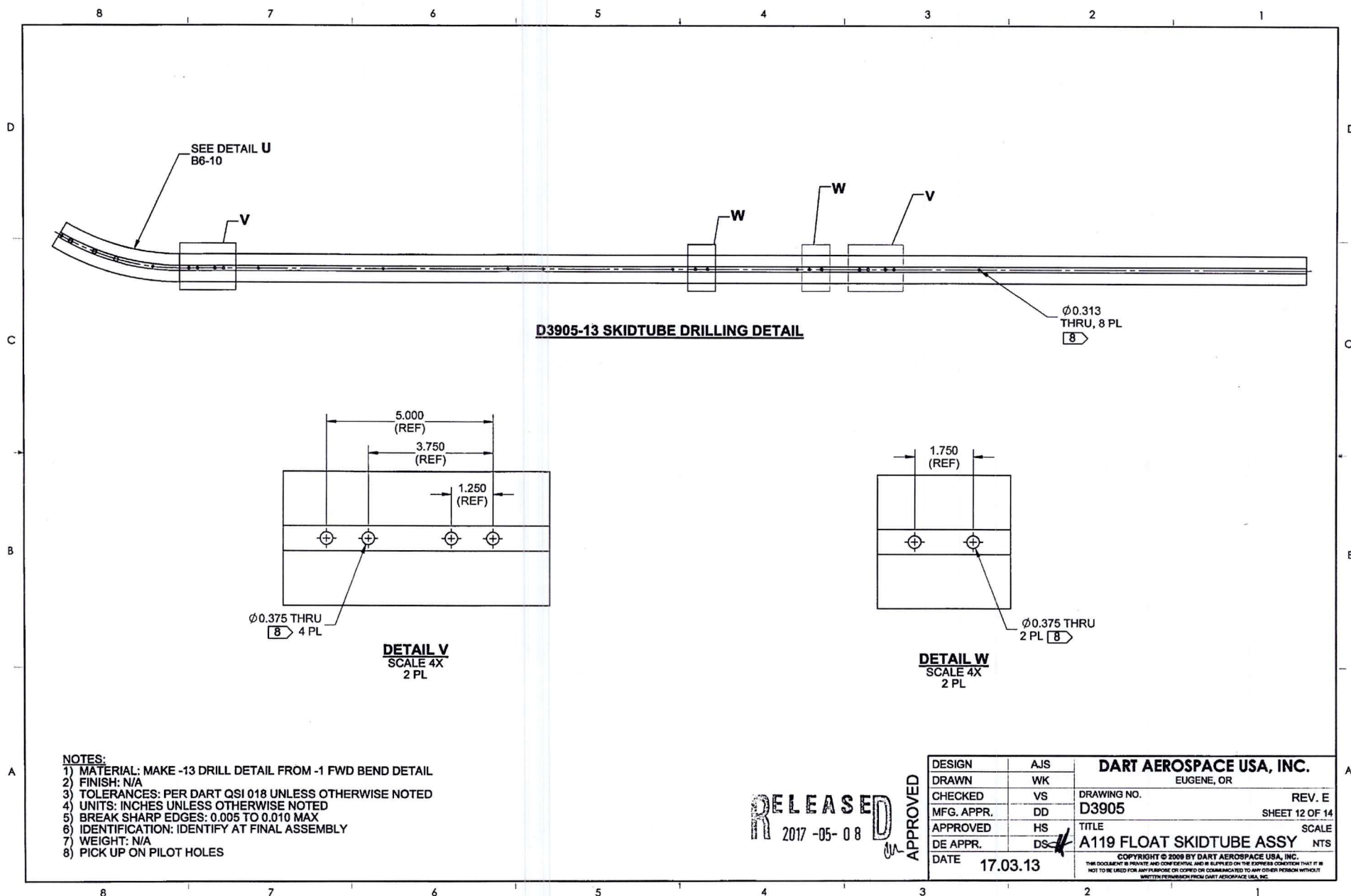
- 1) MATERIAL: N/A
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY AT FINAL ASSEMBLY
- 7) WEIGHT: N/A
- 8) INSERT D3885-3 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH SIKAFLEX-241/-291 ADHESIVE PER DART QSI 015 AFTER BENDING. ENSURE HOLES LINE-UP
- 9) RELIEVE RIDGE FLUSH WITH SKIDTUBE FOR INSERT CLEARANCE, MAX 0.130 INTO RIDGE

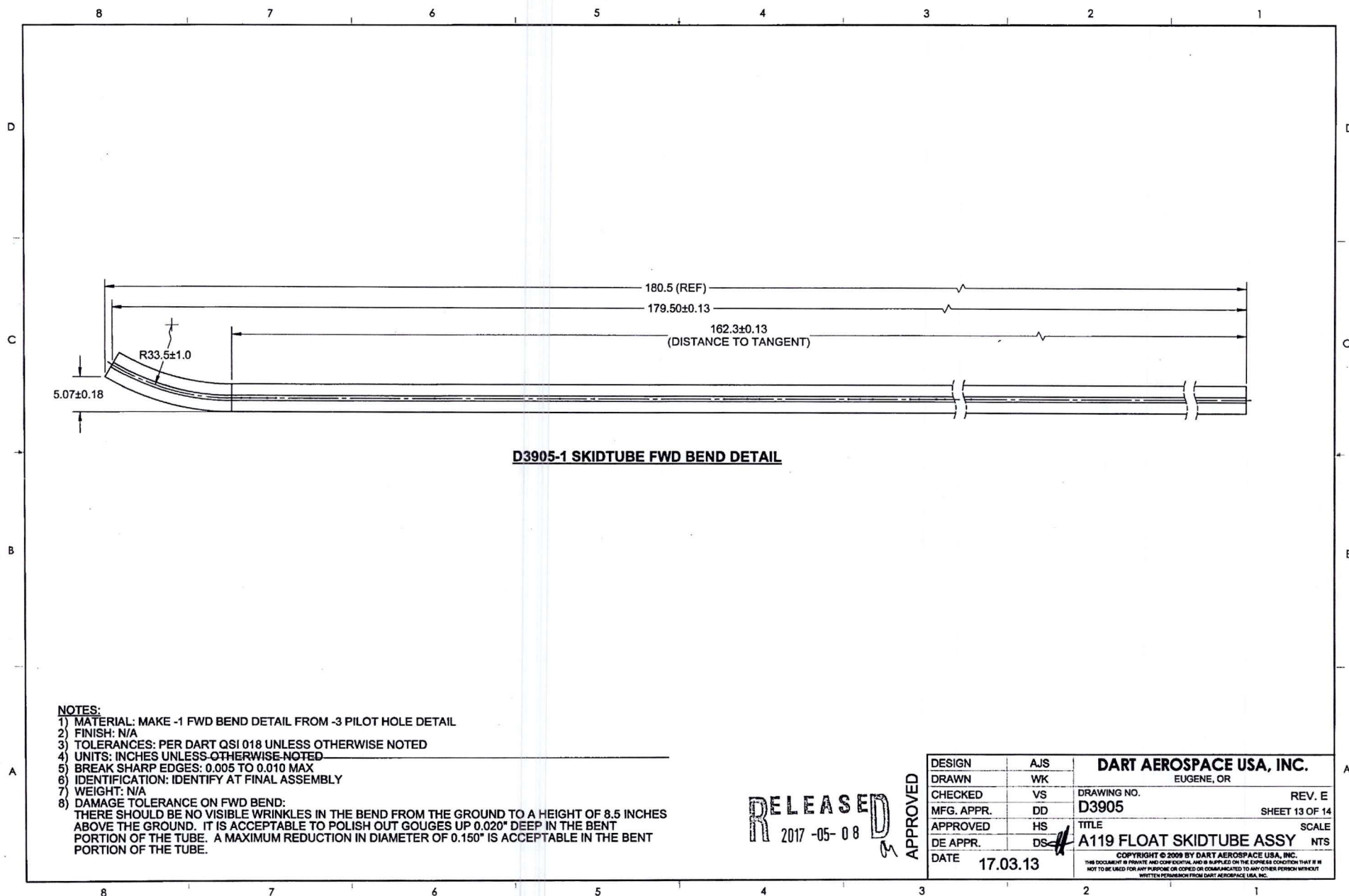
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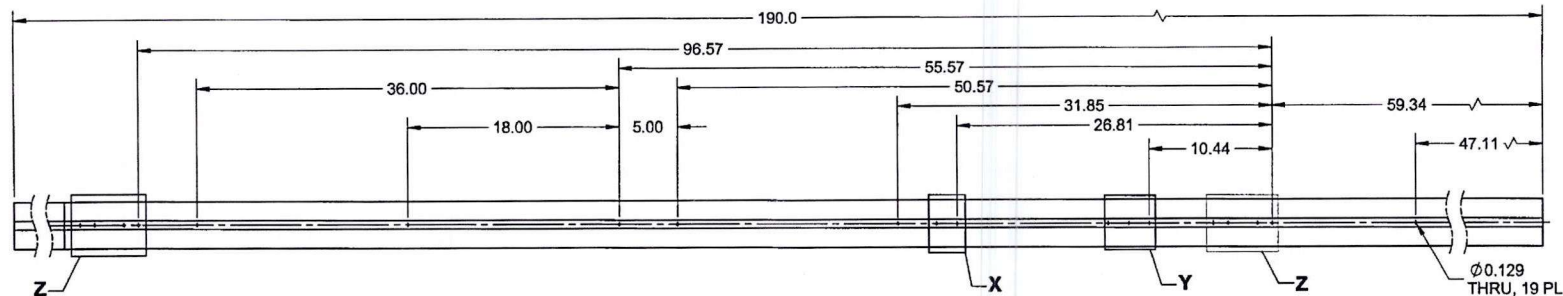
NOTES:

- 1) MATERIAL: MAKE -1 FWD BEND DETAIL FROM -3 PILOT HOLE DETAIL
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY AT FINAL ASSEMBLY
- 7) WEIGHT: N/A
- 8) DAMAGE TOLERANCE ON FWD BEND:
THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 8.5 INCHES ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP 0.020" DEEP IN THE BENT PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.

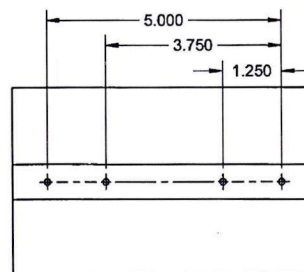
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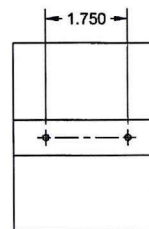
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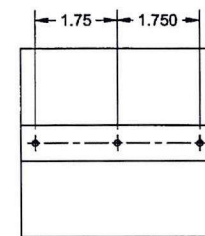
D3905-3 SKIDTUBE PILOT HOLE DETAIL



DETAIL Z
SCALE: 4X



DETAIL X
SCALE: 4X



DETAIL Y
SCALE: 4X

NOTES:

- 1) MATERIAL: MAKE FROM D2500-1-190 EXTRUSION
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY AT FINAL ASSEMBLY
- 7) WEIGHT: N/A

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DRAWING NO. **D3905** REV. E
SHEET 14 OF 14
TITLE **A119 FLOAT SKIDTUBE ASSY** NTS
SCALE

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